

The Technology Review

VOL. XIII

MAY, 1911

No. 5

AN IMPRESSIVE ANNIVERSARY

A remarkable gathering of Alumni at the Congress of Technology—The papers were of a high order and the social events brilliant

The celebration of the fiftieth anniversary of the granting of the charter to the Institute of Technology was an unqualified and gratifying success in every feature.

The attendance exceeded the expectations of the committee and represented every portion of the United States. The papers read before the Congress were of a high order and at each session it was necessary for one of the sections to adjourn to Huntington Hall in order to accommodate the crowds unable to find seats in the lecture room.

The social events were as remarkable as the Congress itself. On Monday evening, April 10, the floor of Symphony Hall was so crowded with Tech men that it was difficult to move about, and the balconies were filled with friends of alumni and undergraduates. At the banquet on Tuesday evening, nearly eight hundred men were seated at the tables, while the balconies were filled with relatives and friends of the alumni. The enthusiasm which was universal and spontaneous bespoke the earnest interest and substantial support of all the former students of the Institute.

The celebration was a success, not only because it showed the tremendous strength of the alumni, but principally, because it impressed the people of New England and the whole country with the fact that, to a considerable degree, the industrial advance of the nation is due to the principles laid down by President Rogers and inculcated for half a century at the Massachusetts Institute of Technology.

Among the important announcements made by President Maclaurin was the gift of a member of the class of '93, who has purchased and presented to the Institute about one thousand acres of land in Maine to be used for the Summer School of Civil Engineering, while another member of the class of '93, Edward M. Hagar, president of the Universal Cement Company of Chicago has offered to donate all the cement used in the construction of the new buildings.

The papers read at the Congress of Technology attracted so much attention that every mail brings many letters asking if these papers will be published by the Institute. The expense attending the publication of a memorial volume containing the papers read at the Con-

technology review

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gress would be very great, greater than the Institute feels warranted in expending for such a purpose at this time. Arrangements have been made, however, to have these papers printed in various professional and trade journals and the REVIEW will print a bibliography of the same as soon as it can be compiled.

CONGRESS OF TECHNOLOGY

The Congress of Technology was auspiciously begun in Huntington Hall on the afternoon of April 10th with an address by President Maclaurin who spoke in part as follows:

THE PRESIDENT'S ADDRESS

The more one looks into the matter, the more is he impressed by the fact that, although many enlightened men coöperated in launching the Institute on its course, the enthusiasm and the guiding power were supplied by one man—Rogers. His choice of Boston as a suitable place for the new venture was made deliberately. Be it remembered that he was not a New Englander, that he was nearly sixty years of age when the Institute was founded, and that until then he had spent the greater part of his active life in the Southern States. To the serenity of outlook on human affairs that marks the scientist and the philosopher, he added an element of passion (perhaps derived from his Irish ancestors), when he touched the realm of education. Nowhere in the world is the supreme worth of children more thoroughly appreciated than in America; nowhere is the preparation for their future regarded more generally as one of the holy offices; nowhere in America is this sacred duty more clearly recognized and more anxiously discussed than in Boston. So Rogers placed the Institute here, not because of the paucity of schools in this neighborhood, but because of their abundance; not because of their weakness, but because of their strength. This, he thought, should be good ground in which to sow fresh educational seed, and ere long his expectations were fully justified. Men of light and leading in the community gave hearty support to the new venture. Gov-

ernor Banks favored state aid to the Institute on the ground that such an institution would "keep the name of the Commonwealth forever green in the memory of her children." His successor, Governor Andrew, who signed the Institute's charter, was greatly interested, and did all that he could to help. "We ought," he said "to start out on a broad gauge and inaugurate a great plan looking to the long future of the Commonwealth." An imposing array of individuals and of societies petitioned the legislature to aid in forwarding the new scheme. Had Rogers chosen his location less wisely, he might easily have failed to enlist such support. The advantages of his chosen ground became still more apparent at the critical time when men had to be found to carry out the new ideas. He realized that this was the point where he was to gain victory or suffer defeat, and in spite of the exceptional difficulties presented, he soon succeeded in surrounding himself with the right men. The original Faculty of ten professors formed a vigorous group, with great reserve of strength, physical as well as mental. They all lived to a ripe old age, and nearly all earned distinction in their own fields. Four of the men are still happily with us, including the professor of analytical chemistry, Charles W. Eliot, whose vigor is not perceptibly diminished after forty years of exacting toil in the presidency of Harvard.

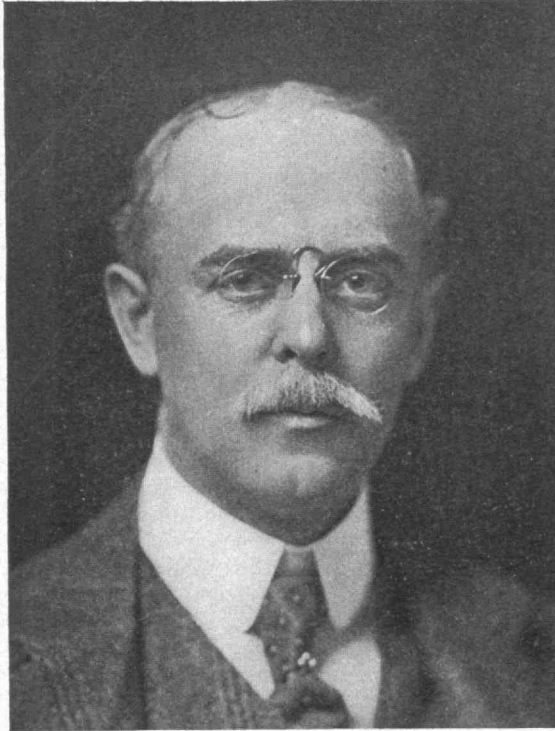
It seems clear, then, that one important factor in the Institute's success has been the place of its birth. And if the place was propitious, the time was in some respects peculiarly so. It was a period of upheaval, to be followed immediately by one of rapid forward movement. The charter was granted within a few days of the breaking out of hostilities marking the beginning of the great war. The national crisis, of course, turned men's thoughts away from science and from education. About a fortnight after the granting of the charter, Rogers attended a meeting of the Thursday Evening Club, and was called upon to speak on some matter pertaining to science. According to a newspaper report of the time "Professor Rogers very gracefully declined

to discuss the topic proposed, but made instead a stirring appeal to the club in favor of providing a regiment of our brave volunteers with knapsacks." Such a time seemed peculiarly unpropitious for initiating a new educational movement, and no doubt the war checked the early growth of the Institute very seriously. However, after a few years, the Nation was ready to turn with undivided mind to the great problems of development, and the seed having been sown earlier in good ground, the Institute sprang up rapidly and reaped the harvest of hope engendered by the settlement of the grave moral and political questions to which the war was due. In the quieter field of human activity, the field of thought, the world was experiencing an equally great upheaval. Darwin's great book had just been published, with results of the first magnitude in shaping the lives on which the world of intel-

world was just entering on a period of remarkable activity in the practical applications of science. The scientists were still struggling with the difficulties of cabling. The Boston of those days was somewhat proud of its critical spirit and in 1859 a writer in the Boston *Courier* proved at great length that all the so-called messages through the Atlantic cables were fictitious, mere shams to

save the stock for a time. Edison, who was living in Boston in 1868, and whose son is an undergraduate at this Institute today, was just beginning his wonderful career as an inventor. A few years later, one of the greatest marvels of scientific achievement, the electric transmission of speech, was to be demonstrated in this very city, indeed, in this very hall, by Alexander Graham Bell, through his invention of the telephone.

At such a time and in such a place, an institution devoted to science and its applications had at least an excellent chance of success. The Institute would, however, never have achieved what it has, if other forces had not contributed to its success. Some of these have been mentioned earlier; but there is one of the very first importance, rarely, I think, appreciated at its real value, to which special reference should be made. *There has never been any uncertainty or indefiniteness as to what the Institute is aim-*



Arthur D. Little, '85, who conceived the idea of the Congress of Technology

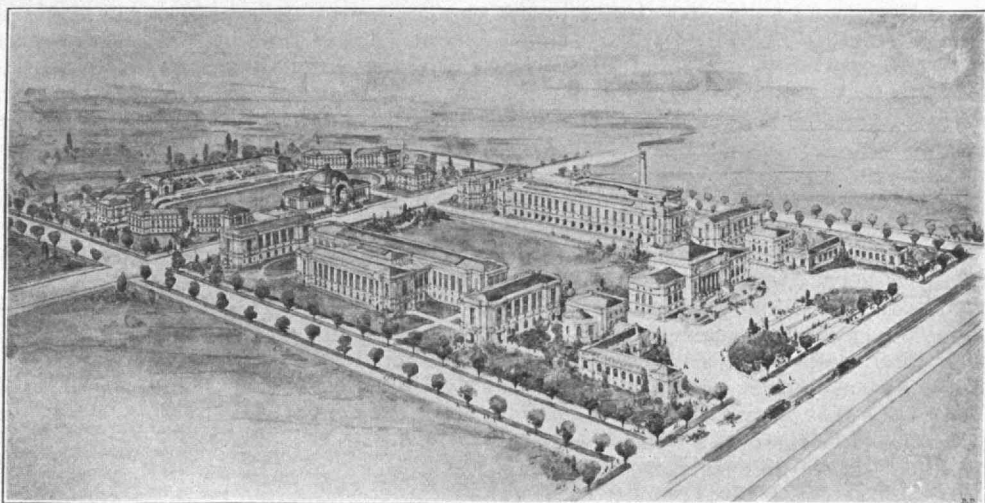
was to move forward for the next half-century. Kirchhoff's idea of spectrum analysis was just opening a new era in physics and in astronomy. Faraday was nearing the end of his great career, but his splendid discoveries had not yet borne fruit in the field of practise. His work, however, was having its influence on the mind of Maxwell, the greatest of whose scientific achievements was announced in 1865, the year in which the Institute actually began to work. The

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ing at in its scheme of education. Every serious student of education is struck by the fact that so many schools and colleges drift around, apparently without compass or rudder, with no definite idea as to what port they are trying to reach, or how they should go to reach it. Here, at any rate, is an institution that, *from the very outset*, has had very definite ideas on these matters, whether those ideas be right or wrong. Most of these ideas are set forth in Rogers' "Object and Plan," which forms a charter of the Institute not less valuable than that which Governor Andrew signed. At the time of writing it, Rogers was no novice in education. He was not far short of sixty, and had taught and thought on educational problems since very early manhood. He had discussed some such project as that of the Institute for twenty years at least, and his ideas thereon had gradually clarified and crystallized, as can be seen from the record of their development which is accessible to all.

Rogers has sometimes been charged with setting up a school in a spirit of antagonism to existing institutions. There is no ground for such a charge. He was too catholic in his tastes to fail to appreciate the good in others, and in advocating something new, he took the safe ground that there was room for difference in the field of education. He knew, as every educated man must know, that the fear of what is called *useful* knowledge is exaggerated, and for the most part groundless. He knew, as others do today that the oldest universities all began with a clear recognition of the bearing of their studies on definite callings; and he recognized clearly that it was not a merit, but a defect of these schools that most of them had failed to keep pace with the changes in the character of human occupations that time had brought forth. He saw, as Lowell did, that "new times demand new manners and new men" and that new conditions demand new schools. For the guidance of the new school, he laid down a few simple, but far-reaching principles, which have governed the Institute ever since. The first of these is the *importance of being useful*. There

is, of course, no necessary antithesis between the individual and the social end in education. However, the laying of the emphasis *is* important, and Rogers laid it unhesitatingly on efficiency in the service of society. In his first address to the students at this Institute, he set forth the *value* and the *dignity* of the *practical* professions for which they were to prepare themselves. (Rogers, himself, be it remembered, was a pure scientist, president of the National Academy of Sciences, the friend of Darwin, Kelvin, Helmholtz, and the like.) In earlier discussions with his brother with reference to the plan of the Institute, emphasis had been laid on "the value of science in its great modern applications to the practical arts of life, to human comfort, and health, and to social wealth and power." And so when the Institute was actually founded the importance of science was kept steadily in view. He regarded the scientific habit of thought as specially valuable in practical affairs and consequently in education he laid greater stress on broad principles and their derivation than on details of fact, and he held that the *spirit* of science was more to be desired than all the gold of scientific knowledge. These are his words: "In the features of the plan here sketched, it will be apparent that the education that we seek to provide, although eminently practical in its aims, has no affinity with that instruction in mere empirical routine which has sometimes been vaunted as the proper education for those who are to engage in industries. We believe, on the contrary, that the most truly practical education, even in an industrial point of view, is one founded on a thorough knowledge of scientific laws and principles, and one which unites with habits of close observation and exact reasoning, a *large general cultivation*. We believe that the highest grade of scientific culture would not be too high as a preparation for the labors of the manufacturer." It will be seen from this that Rogers made no fetish of science, and that he welcomed every really liberal study. Some of the champions of the new school joined in the attack on the older learning; but Rogers



One of the plans suggested for the New Technology

had no sympathy with such views. "The recent discussions here and elsewhere," he said, "on the relative value of scientific and classical culture seem to threaten an antagonism which has no proper foundation in experience or philosophy." And although the study of the classics has never formed part of the Institute's courses, history, economics, languages and literature enter into its curricula far more extensively than is generally supposed.

Apart from his appreciation of the value of all sound learning, Rogers saw clearly that the whole controversy as to the relative merits of science and the classics in the field of education missed the mark by placing the emphasis in the wrong place. He understood that when one gets to the root of things in education, the *method* rather than the *subject* is of supreme importance, and his insistence on the value of method in teaching was the cardinal doctrine in his creed and the one that has contributed most to the success of the Institute. Doubtless his knowledge of the history of science turned his thoughts in this direction. He must have pondered over the question, as every serious student has done, why throughout the ages the world stood so still in the realm of science. It was not for lack of

intellectual power, for no one who has examined the matter can fail to recognize that there really were giants of old. The failure came through attacking the problems by the wrong method. And Rogers concluded that much of the failure in education was due to similar causes. What method, then, is the right one? His fundamental idea here was not original with Rogers. It has been clearly expressed before, but rarely, if ever, adopted definitely as the basis of educational method and applied systematically throughout. The idea is familiar to us all today, the idea of *learning by doing*. "How can a man learn to know himself?" asked Goethe. "Never by thinking, but by doing." Add to this the doctrine of Carlyle that "the end of man is an action and not a thought, though it were the noblest," and you have the whole thing in a nutshell. Carlyle is often quoted as having said that the modern university is a great library. He would have been truer to his own doctrine if he had said that the modern university is a great laboratory. "The Institute," General Walker was fond of saying, "is a place not for boys to play but for men to work." Boys and men alike learn most effectively by working for themselves, and the *do-it-yourself* method has

been, I believe, the greatest factor in the success of this Institute of Technology.

Whatever be the explanation, there can be no doubt about the fact of its success. It is not merely that the Institute is now the largest institution of its kind in this country, and as regards the extent and variety of its courses and equipment, the most nearly complete in the world. It is not merely that it has grown so that there are a hundred students today for every one that took the preliminary course scarcely fifty years ago, and that amongst these students there are men drawn by its reputation from the greatest universities of England, France and Germany, as well as from the leading schools and colleges throughout this union. It is not merely that its teaching staff has expanded so that it contains today more than two hundred and fifty men, and that amongst its hundred professors are to be found many men of prominence, and not a few of national and indeed international reputation. It is not merely that amongst its graduates there are men of the front rank as pioneers of knowledge in the field of pure science, nor that its ten thousand alumni have played so great a part in the development of the nation's industry and commerce, and in the preservation of the public health. The most striking fact, when one considers the Institute's youth, is the fact emphasized on an earlier anniversary by Mr. Augustus Lowell and expressed by him in the phrase, "The M. I. T. is *preëminently a leader in education.*" Its educational ideals and methods have been studied and almost everywhere the trend today is in the direction in which the Institute has long been moving.

Following the President's address came a paper by Dr. William H. Walker, director of the research laboratory of applied chemistry, on "The Spirit of Alchemy in Modern Industry." The last paper of the afternoon was on "Technology and the Public Health" by Prof. C.-E. A. Winslow, '98, associate professor of biology, College of the City of New York, and curator of public health, American Museum of Natural History, New York.

The papers delivered on Tuesday, the second day of the Congress, were divided into five sections: Section A,—Scientific Investigation and Control of Industrial Processes, under the direction of Prof. Wm. H. Walker, chairman; Section B,—Technological Education in Its Relations to Industrial Development, in charge of Dr. Arthur A. Noyes, chairman; Section C,—Administration and Management, in charge of Dr. Davis R. Dewey, chairman; Section D,—Recent Industrial Development, in charge of Prof. D. C. Jackson, chairman; Section E,—Public Health and Sanitation, in charge of Prof. William T. Sedgwick, chairman; Section F,—Architecture, in charge of Prof. F. W. Chandler, chairman.

Prof. Charles F. Park was in general charge of the Congress.

CLASS DINNERS

Although the suggestion that the classes meet together for dinner was made



Eben Stevens and Col. Russell of the Class of '68.—*Boston Herald*

at the last moment, nearly every class from the beginning of the '80's up to the present time met together for dinner, and the hotels all along Boylston Street were crowded to their fullest capacity with jovial throngs of Tech men getting their voices in tune for the smoker in Symphony Hall. Very few classes made any special arrangements for dinners or met in private rooms. As the celebration came on Monday evening when the patron-

age at the hotels is lightest and there was ample room everywhere and plenty of time for an *à la carte* dinner. At eight o'clock the throngs began to pour out of the hotels and march up Boylston Street in numbers far outstripping any social event the alumni have ever held.

THE ANNIVERSARY SMOKER

The attendance at the smoker on April 10th exceeded that of any similar func-



George B. Glidden, '93, who ran off the Smoker so successfully

tion ever held in Symphony Hall. There were more than twelve hundred Technology men on the floor, while the balconies were crowded with friends of alumni and undergraduates of the Institute. After overselling the floor by over one hundred it was thought not wise to admit a larger number and about two hundred men were unable to secure floor tickets.

The program of the evening was in charge of a committee of which George B. Glidden, '93, was chairman. His promise that the entertainment would

be unusual, interesting and mirthful was fully carried out. The committee on decoration of which Prof. H. W. Gardner, '94, was chairman, beautified the hall with banners, palms and flowers and the Waltham Watch Company Band played popular airs.

The crowds began to throng in long before eight o'clock and about that hour delegations from various Technology clubs throughout the country began to arrive carrying the banners of their local associations.

Among those that sent delegations were—Chicago, Rochester, Schenectady, Pittsburg, Washington, New York, New Bedford, Providence, Merrimack Valley, Springfield, Hartford and Philadelphia; although nearly every other club east of the Rockies was represented including—Minneapolis, Denver, Detroit, and Buffalo.

As these delegations entered the hall they were greeted by ringing cheers from the multitude, the climax coming when the old class of '68 entered with Eben Stevens at the head.

In the meanwhile the program was going on and when the stage was not occupied, the men either cheered, or sang Technology songs. The crowd was too great to allow much moving about. The first number on the program was the singing of "Dear Old M. I. T." by the combined musical clubs of the Institute. J. C. Fuller, '11, and F. C. Thompson, '11, presented a song and dance number which was a part of the "Chocolate Soldiers" minstrel performance given last winter.

Then the band played again and the New Bedford Technology Club, thirty strong, marched into the hall headed by a Scotch piper, each man wearing a head piece made to resemble a whale. The whalers made a great hit and were compelled to march up and down the hall to show off their equipment.

H. E. Kebbon, '12, sang a parody on a popular song, written by Dudley Clapp, '10, in which he described Tech's search for a new home and the Springfield Alumni's offer of a site for the Institute, as follows—

Tune: Any Little Girl that's a Nice Little Girl, etc.
 The Stute you know can never grow while it remains
 right here,
 Of those who long to join our throng they flunk
 out more each year;
 This seemed to vex our honored Prex when to this
 place he came,
 He said "No doubt we must move out" and then
 he did exclaim

CHORUS

Any little site that's a nice little site is the right
 little site for me,—
 We want a place to go with a lecture room or so
 and a lab for chemistry!
 With the Union lunch where we can munch and
 the chapel, yes siree,—
 For any little site that's a nice little site is the
 right little site for me.

It came to pass, at Springfield, Mass., they heard
 his tale of woe,
 Said they "You'll get the one best bet if to our
 town you'll go!
 We'll give you ground stretched all around and
 full three million bones,"—
 Prex shook his head and then he said in most
 decided tones

CHORUS

Any little site that's a nice little site is the right
 little site for me,
 Some modest little spot, say a thousand-acre lot,
 and of course I want it free,
 With some pleasant hills and babbling rills, and
 in Boston it must be,
 So any little site that's a nice little site is the right
 little site for me.



How the Undergraduate Entertainers looked to the *Herald* Artist

Two excellent numbers by the Technology Orchestra of about seventy-five pieces followed. The combined Glee and Mandolin clubs then rendered "Our Technology."

O. B. Denison, '11, sang his celebrated ballad with "hand-made" illustrations, entitled "The Old Mill Wheel is Turning in the Belfry," which took down the house. He then did some piano stunts, playing blindfolded, playing while the keys were covered with a sheet, and finally while standing on his head still blindfolded.

Following this was a three-round sparring bout between two well-matched undergraduates, with Major Briggs as referee.

At intervals during this program the hall was darkened and pictures recalling the old days of Technology were thrown on the screen. These had been collected by Chairman Locke and his committee consisting of Prof. Allan W. Rowe, '01, and Grosvenor Marcy, '05. Each one of them brought forth applause from some portion of the house where the special features were recognized.

Among these pictures were photographs of well-known professors showing how they appeared when they first came to the Institute as students and as they look today. The pictures taken from old "Techniques" representing in the main, grinds on the faculty were received with uproarious applause in which many of the victims joined heartily.

The moving pictures of *Technique* rush were kindly loaned by the management of Keith's Bijou Dream, also the slides and moving pictures of the Technology reunion in 1909.

THE ANNIVERSARY BANQUET

The culminating event of the semi-centennial celebration was the great banquet in Symphony Hall on April 11th which was attended by about eight hundred alumni and friends of the Institute.

The stage on which the speakers' table was set was arranged to represent a classical garden, the background being formed of a mass of bay trees relieved by Corinthian columns which were surmounted by large vases containing great bunches of red roses. The central feature was a bust of Professor Rogers in front of a panelled background of gold. At each medallion along the front of the first balcony were garlands of flowers and masses of green leaves, while ropes and festoons of green stretched from medallion to medallion.

The tables on the floor which completely filled the available space, were strewn with cut flowers, and the cardinal shades of the candlesticks gave a touch of color to the snowy tables. Above the stage was an immense banner of Technology and on either side in electric lights the first and latest graduating years, '68 and '10.

The flowers on the head table were massed in low relief and flowering plants banked the narrow space between the front of the stage and the tables. At the head table were three immense gold candelabra, while on the floor tables the candelabra were of the same design, but of silver.

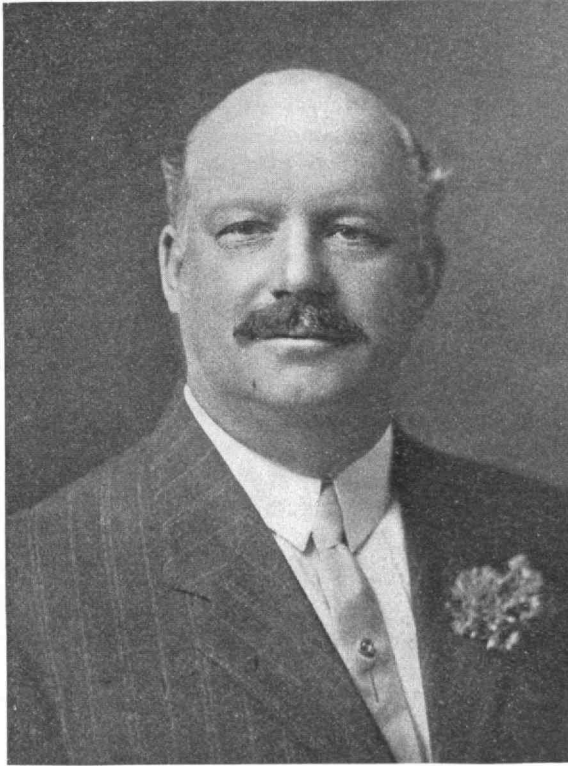
After the banqueters had entered the hall and were standing at their places, Major Frank Briggs '81, led a long cheer,

after which the band struck up the chorus of "Auld Lang Syne," in which every one joined.

Perhaps the most remarkable feature of the banquet, from an engineering standpoint, was the dinner itself which was in charge of a committee of which C. C. Peirce, '86, was chairman, and which was prepared and served under the direction of Mr. Joseph Sheehan, steward

of the Eastern Yacht Club and the Brookline Country Club. The mystery of it all was how the food could be cooked to perfection and served hot in Symphony Hall where there are absolutely no facilities for such work.

As with the food, so the service was perfect, the waiters being drafted from the principal clubs in Boston. Experienced head waiters took charge of divisions, so that every detail of the banquet was carried out with the precision of clock work.



C. C. Peirce, '86, the genius of the great Banquet

Throughout the whole dinner there was a superb display of spirit for which Tech has become noted in recent years and which marked the whole celebration of the anniversary.

The men were seated by classes and during the dinner class yells and cheers for prominent professors and alumni followed each other in quick succession.

At the head table were seated President Maclaurin, Lieutenant-Governor Froth-

ingham, Pres. A. Lawrence Lowell of Harvard, a member of the Institute Corporation, Dr. Chas. W. Eliot and Prof. George A. Osborne, of the original Faculty of the Institute, Prof. Arthur A. Noyes, president of the Alumni Association, Col. E. D. Maier, president of the American Society of Mechanical Engineers, Admiral Mordecai T. Endicott, president of the American Society of Civil Engineers, Prof. James M. Crafts, former president of the Institute, George S. Smith, president of the Chamber of Commerce, Charles A. Coffin, president of the General Electric Company, Prof. Wm. T. Sedgwick, representing the Faculty, Clarence W. Barron of the Boston News Bureau, Frank B. Tracey of the *Boston Transcript*, L. Lincoln Wilcutt representing the original petitioners to the legislature, Messrs. James P. Monroe, George Wigglesworth, James W. Rollins, Jr., Francis R. Hart, J. M. Longyear and Frederick P. Fish representing the Institute Corporation and Mr. William Endicott, Jr., representing his father who for many years was treasurer of the Institute and a member of the Corporation.

After coffee the audience arose and sang the Stein Song, and after a long cheer President MacLaurin made the following introductory address:

PRESIDENT MACLAURIN MAKES ANNOUNCEMENTS

This is an occasion primarily for congratulation to all who have been concerned in the great achievements of the Institute since it was chartered fifty years ago. Beginning in a small and humble way it has made itself a power, so that there is scarcely a portion of the world where its influence is not felt. A retrospective mood would seem appropriate to such an occasion and I hope that some of the speakers will tell us of the struggles of the earlier days and of the wisdom and the courage of those who prepared the ground for the harvest that we are reaping. We owe much to those pioneers and we are unstinted in our feeling of respect and gratitude for their achievements. But after all, when you consider what the Institute has done and the great influence

that it has exerted, the most striking thing about it is its youth. And youth naturally looks forward rather than backward. So, even tonight, we are thinking mainly of the New Technology, wherein, under freer conditions we can retain all that is best in the spirit of the good *old* M. I. T. In planning for this *New* Technology, we have at least two great advantages over our original founder, Rogers. In the first place, the value of such an institution can no longer be the subject of debate. It is proved beyond dispute. The need of technically trained men in almost every walk of practical life, is becoming daily more apparent, and no far-seeing man doubts that the need and the demand will be stronger in the next generation than it is today. So while the Old Technology was backed by a few men of exceptional foresight, the New Technology has behind it the irresistible force of public approbation. Further than this, we have the inestimable advantage of the loyal and enthusiastic support of a strong body of alumni. They can and will help the institution in a thousand different ways. Time will not permit me to give you more than a few examples of what they are actually doing today, but two or three I feel constrained to mention.

It has been recognized for some time that there are certain branches of engineering that cannot be properly taught in the heart of a great city, and that a summer camp is a necessary adjunct to a fully equipped school of civil engineering. This camp must be about a thousand acres in area, varied in contour and close to sea, lake and river. It is not easy to find such a place that is available, but an alumnus of the Institute has not only found it after very careful search, but has bought it. He now offers it to the Institute, and stands ready to equip it later if his offer be accepted. This alumnus wishes to remain anonymous and of course his wishes must be respected. I may perhaps say, however, that he is a member of the great class of '93. This generous offer will be considered by the Corporation at its next meeting.

At that meeting there will be other offers to consider. One of the most active

alumni associations is the Northwestern with its headquarters in Chicago. At a meeting there recently to discuss what should be done when the site problem is settled, it was suggested that Chicago should *act*, while Boston and Massachusetts *pondered*; and so another member of the class of '93, president of the Universal Portland Cement Company, announced that he would supply freely all the cement needed in the construction of the new buildings. That is an extremely generous offer, which the Cor-



Edward M. Hagar, '93, who will donate the cement used in the new buildings

poration will doubtless accept with alacrity, especially when it realizes the possibility of building the whole Institute in reinforced concrete.

Now, as to the site problem, after all, there are limitations even to Portland cement, if you have no land on which to found your buildings, and so the question of a suitable site has been a matter of careful investigation for some time. To many, the problem seems very simple indeed. If we may judge from the offers that have been made with regard to this matter, the state of Massachusetts consists almost wholly of sites that are per-

fectly ideal for the purposes of this Institute. Most of these offers have been of a business character, requiring a not inconsiderable monetary consideration, but there have been exceptions, notably in the case of Springfield. There, a site is freely offered that is splendid in nearly all respects save one—it is not near enough to the Hub. I think that His Honor, the Mayor, will agree that Boston is today even as it was in Rogers' time, the ideal place for such an institution. However, even the most ideal site in the great city of Boston is not very interesting to us unless we have the money to buy it. And we have none that we can use for such a purpose. When describing the situation to a committee of the legislature I said that I knew something of the temper of the alumni, and something also of the attitude of public-spirited citizens, who, although not alumni, believe heartily in the Institute, I added, that knowing this, I felt confident that enough money could be raised during the next decade to provide a new site and new buildings, *provided* that the State would help the Institute over the difficult period of transition by undertaking a larger share of the burden of the running expenses than it has borne in the past. Since then, I observe that the House Committee of Ways and Means has proposed to make the continuance of State aid conditional on the raising of a million dollars. I have therefore been trying the strength of the forces behind me.

I have not received promises of the million yet, but I have received absolute assurances from certain of the alumni that they will contribute a very substantial proportion of the sum needed to purchase a suitable site, if only the State will take care of that part of the running expenses not already provided for. Prominent amongst these generous friends are alumni from outside the State of Massachusetts. As an example of the spirit of the conditions that they attach to their promises of support I may say that one of these alumni expresses himself in effect as follows:—"I have no connection with Massachusetts except the ties of my association with the Institute. But, although I am not a Massa-

chusetts man, I am and always will be a Tech man. I know its needs, I see something of its possibilities, and I realize that it ought to move and to give itself room for free and natural growth. I will help on these conditions:—*First*: that a site be secured that in location and size satisfies my ideas as to the future development of the Institute—(and I may add that his ideas are large in proportion to his generosity).

Second: that other friends of the Institute provide funds to complete the purchase of such a site and to erect thereon suitable buildings.

Third: and most important of all, that during the transition, the educational standards of the Institute be maintained at their present high level.

The Institute holds its present proud position by maintaining the highest standards and we can permit nothing to lower them. To maintain these standards, the running expenses must be met and any one can see that the load of millions that this rebuilding will impose upon our friends will tend to divert funds that would otherwise be given for current expenditure. If, then, we are to take advantage of the generous offers to which I have referred and are to launch out on a policy of development the only alternative to increased state aid during the period of transition is an increase of fees. This increase we hesitate to make, as our fees are relatively high already and any addition would exclude a large number of the sons of wage-earners—a class that supplies one third of our students and many of the very best that we have. If, on the other hand, the legislature as a whole, acts in accordance with the resolutions of the Senate and in accordance with recommendations of the Committee on Education and on Ways and Means, all of which after most careful investigation, have approved the granting of this state aid, then we shall certainly go ahead immediately.

As to the site itself, I may say that if my judgment be worth anything, the problem of selection is practically solved. It is reduced to the simple problem of selecting one out of three sites. It can only

be solved definitely when we are in a position to get down to actual business and make a definite offer. Then, and then only shall we know exactly where we are in the important matter of price—an element that must be a factor and that may easily be a determining factor in making the selection. I need only add that all three sites are within easy distance of Rogers' steps.

So much of alumni support; but the interest in Tech is certainly not confined to the alumni. Our campaign for increased state aid had brought us evidence of good-will from unexpected quarters everywhere and proved beyond dispute that there is a tremendous force of public sentiment behind the Institute of Technology. And need I remind you that, apart from the public at large, there is at least one who cares for the Tech that Rogers founded with a devotion that no alumnus can ever match. As the latest proof of her constant thoughtfulness, I may mention that Mrs. Rogers asked yesterday to have the privilege of subscribing \$500 towards the expenses of the Congress of Technology.

Louis K. Rourke, '95, then read telegrams from various associations to their Alma Mater as follows:

OAKLAND, CAL., April 11.

PRESIDENT MACLAURIN, Technology Banquet, Symphony Hall.

Technology the foremost among schools has for fifty years been the leader. May she long continue to be so.

TECHNOLOGY ASSOCIATION OF NORTHERN CALIFORNIA, SAN FRANCISCO.

PHILADELPHIA, PA., April 11.

PRESIDENT MACLAURIN, Symphony Hall, Boston.

Greetings from the Technology Club of Philadelphia.

W. H. BLAKEMAN, *Secretary*.

NEW YORK, N. Y., April 11, 1911.

DR. RICHARD C. MACLAURIN, Technology Banquet.

Technology men of New York sing good old Tech songs, join with Boston in the celebration. Direct wire great success.

WILLIAM H. KING, *President*.

BUFFALO, N. Y., April 11.

RICHARD C. MACLAURIN, Symphony Hall.

Buffalo assures Technology Congress its unflinching loyalty to the Institute, and hearty coöperation in future plans.

W. H. WATKINS, *President*.

BUFFALO, N. Y., April 11.

RICHARD C. MACLAURIN, Mass. Inst. of Tech,
Boston.

We glory in the Institute's past, yet may her progress be so great that future celebrations will date from her golden jubilee.

BUFFALO.

CHICAGO, ILL., April 11.

FREDERICK K. COPELAND,

DR. RICHARD MACLAURIN, Mass. Inst. of Tech,
Boston.

Assembled seventy-five strong and send to you the greetings of all the fellows. Tell them there we are with them heart and soul.

MEYER J. STURM, *Secretary*.

CHICAGO, ILL., April 11.

DR. RICHARD MACLAURIN, Boston.

The fact that we lead and others follow has been largely due to our leaders. The Northwestern Association sends to you as commander in chief, the assurance of its continued and loyal support at all times and upon all occasions.

MEYER J. STURM, *Secretary*.

CINCINNATI, April 11.

DR. RICHARD MACLAURIN, M. I. T.

May the new Technology of the second half century be a grand fulfillment of all the dreams of the old.

THE CINCINNATI M. I. T. CLUB.

CLEVELAND, OHIO, April 11.

R. C. MACLAURIN, President M. I. T.

The Technology Club of Northern Ohio, in behalf of one hundred and fifty loyal alumni, sends hearty congratulations upon your fiftieth anniversary. Here's a million in good wishes for Technology, and every one of her birthday dinner guests.

SIDNEY Y. BALL, *Secretary*.

DENVER, COL., April 11.

DR. RICHARD C. MACLAURIN, Mass. Inst. of Tech.,
Boston.

Rocky Mountain Technology Club one mile high sends greetings with best wishes for successful anniversary.

FRANK E. SHEPARD, *President*.

HARTFORD, CT., April 11.

PRESIDENT RICHARD C. MACLAURIN, Mass. Inst. of Technology, Boston.

From a few of us here to all the rest; A health to Tech, past, present and future!

HARTFORD TECHNOLOGY CLUB.

LOS ANGELES, CALIF., April 10.

DR. RICHARD C. MACLAURIN, Mass. Inst. of Tech.,
Boston.

The Technology Club of Southern California sends greetings from the Golden State to the Massachusetts Institute of Technology on the occasion of its golden celebration.

We are sorry you live so far away.

TECHNOLOGY CLUB OF SO. CALIF.,

JAMES W. JOHNSON, *President*.

LAWRENCE, MASS.

PRES'T MACLAURIN M. I. T.

We send greetings to the brothers of our Alma Mater and we pledge our allegiance for all time.

TECHNOLOGY CLUB OF THE MERRIMACK VALLEY,

By JOHN A. COLLINS, JR., *Secretary*.

MINNEAPOLIS, MINN., April 11.

PRES'T MACLAURIN, M. I. T.

Greetings from Technology from Tech Club of Minnesota. May the success of the past be an inspiration for the new efforts of the future.

J. W. SHERMAN, *Secretary*.

NEW YORK, April 11.

RICHARD C. MACLAURIN, Technology Banquet,
Symphony Hall.

Hurrah for site, Class of '93, Universal cement, and Chicago Edison!

NEW YORK CLUB.

NEW YORK, April 11.

DR. RICHARD C. MACLAURIN, M. I. T.

The Technology Club of New York sends you this greeting of congratulation, confidence and esteem, rejoicing in the high service heretofore rendered by the Institute, in its present efficiency, and in the promise of the greater achievements of the new Technology under your wise guidance.

WILLIAM H. KING, *President*.

PITTSBURG, PA.

RICHARD C. MACLAURIN, President M. I. T.

Pittsburg Association extends greetings on the fiftieth birthday of Institute. May next fifty years' history surpass our fondest expectations. Tech owns Pittsburg tonight.

L. K. YODER, *Secretary-Treasurer*.

PORTLAND, OREGON, April 11.

PRES'T MACLAURIN, Mass. Inst. of Tech, Boston.

Oregon Alumni send greetings and best wishes for the future.

A. G. LABBÉ, *Secretary*.

PROVIDENCE, R. I., April 11.

RICHARD MACLAURIN, Pres't, Symphony Hall,
Boston.

Members of the Technology Club of Rhode Island, unable to attend the golden anniversary exercises, have assembled at the University Club and send greetings to President MacLaurin, the alumni and guests of Technology. The heartfelt wish of all present is that the Institute may continue in the front rank of educational institutions and increase its prestige and influence as the years pass.

E. D. PINGREE.

SEATTLE, WASH., April 10.

PRESIDENT MACLAURIN, Mass. Inst. Technology,
Boston, Mass.

Technology Club of Puget Sound sends greetings and congratulations to Tech, to you and to all Tech men assembled. Regret we cannot all be there. We are with you in thought and spirit.

FRANK DABNEY, *President*.

L. ARTHUR WALLON, *Secretary*.

SPOKANE, WASH., April 11.

PRES'T MACLAURIN, M. I. T.

Here's to William Barton Rogers and his Tech!
We're spreading his ideas way out here.

P. F. KENNEDY, *Secretary*.

SPRINGFIELD, April 11.

R. C. MACLAURIN, Boston.

Gilt-edge Springfield site all ready.

Will be delivered, all charges prepaid. Wire acceptance our expense.

CONNECTICUT VALLEY ASSOCIATION.

SPRINGFIELD, MASS., April 11.

PRESIDENT RICHARD C. MACLAURIN.

Dinna forget that we're not so far distant from Boston but that the echoes of your celebration can easily reach Springfield and the Technology Club of the Connecticut Valley.

E. P. MARSH, *Secretary*.

HARRISBURG, PA., April 11.

RICHARD C. MACLAURIN, Symphony Hall, Boston.

Tech's sons in Central Pennsylvania send greetings to Alma Mater.

STEPHEN BADLAM, *Secretary*.

SYRACUSE, N. Y., April 10.

DR. R. C. MACLAURIN, President Mass. Inst. of Technology, Boston.

The M. I. T. Club of Central New York holds banquet at Syracuse as all good Tech men should. Though in numbers we are small our enthusiasm and loyalty are large and we extend our heartiest congratulations to our Alma Mater on completion of her half century.

JAMES P. BARNES,

President M. I. T. Club of Central N. Y.

WASHINGTON, D. C., April 10.

PRESIDENT RICHARD C. MACLAURIN, Mass. Inst. of Tech., Boston.

Loyal sons of Technology in Washington, D. C. send greetings and congratulations.

R. B. SOSMAN, *President*.

PROVIDENCE, R. I., April 11.

RICHARD MACLAURIN, Pres't Mass. Inst. of Tech, Boston.

Greetings to Tech, on this her golden anniversary. May the star of her superiority continue in its ascendancy full fifty times fifty years more.

TECHNOLOGY CLUB OF RHODE ISLAND.

ROCHESTER, N. Y., April 11.

DR. R. C. MACLAURIN, Pres. M. I. T.

With sincere congratulations the Technology Club of Rochester sends its greetings to Doctor MacLaurin.

W. E. HOYT, *President*.

ST. LOUIS, MO., April 11.

RICHARD C. MACLAURIN, M. I. T.

O Alma Mater, 'tis to thee, a group of loyal and devoted sons are raising a song of glory in St. Louis to-night!

A. M. HOLCOMBE, *Secretary*.

In introducing Governor Frothingham, President MacLaurin said:—"The Institute of Technology is proud of its connection with the State. It has received also from these distinguished men who have occupied the great offices of Governor and Lieutenant-Governor of this Commonwealth, assistance and help at many a critical period of its history. It owes a great deal to the help at the outset of the great war Governor, Andrew, who did far more than sign its charter, who took a real and warm interest in its development and always expressed the hope that it would move forward on broad lines and lay its plans for the future,—the long distant future of the Commonwealth,—and the State is represented on the Corporation by the Governor of the Commonwealth as well as by other representatives. We had hoped tonight that his Excellency the Governor would be with us, and he was to be here, but unfortunately during the day he was taken suddenly ill—we hope only temporarily, and is thus unable to be present. We are fortunate that we have with us his substitute, the distinguished Lieutenant-Governor, whom I have the pleasure to present to you now."

LIEUTENANT-GOVERNOR FROTHINGHAM

Lieutenant-Governor Frothingham said that he owed a great deal to the Institute of Technology because when he was an undergraduate at Harvard, and captain of the nine in his junior year, Harvard received from the Institute the best batter that ever stood on an amateur diamond. Mr. Frothingham ascribed his particular skill to the fact that he was probably coached by Major Briggs. The speaker paid a fine tribute to the Institute for what it has done for the State and the whole country and said, "If the present Governor of Massachusetts is in any doubt as to whether he will affix his signature to the measure which is at present before the legislature, the mayor of Boston and I have agreed to advise him, and advise him correctly on that subject." Mr. Frothingham then enumerated a number of examples of engineering and scientific work where the men of Technology had

accomplished unusual results for the benefit of the State. He spoke of Howard Carson's work as head of the Rapid Transit Commission, of the service that Professor Sedgwick has rendered the State in improving its sanitary conditions, of the fundamental work that Tech men and women have done for the Metropolitan Water System and the engineering work on the Charles River Basin, and in connection with the latter, referred to John R. Freeman and James W. Rollins, Jr. He also spoke in high praise of the value of the services of Prof. George F. Swain. "But the Institute has done more for Massachusetts and the country," said Mr. Frothingham, "for there a preliminary training was given to the two great presidents of Harvard University who sit at this table this evening. A man once approaching the shores of New England and viewing the rock and barren soil, asked his neighbor what could be produced on such a soil, and the answer came back, quick as a flash,—'We can produce men,' and it is that which the Institute of Technology has proved in this state, where a scientific knowledge is so necessary. It is to the brains that come out of the Institute of Technology that we owe our success in manufacturing in New England."

The toastmaster spoke of the close connection between the Institute and the City of Boston and introduced its mayor, Mr. John F. Fitzgerald.

MAYOR FITZGERALD

Mr. Fitzgerald said:—"I heartily subscribe to the sentiment uttered by the Lieutenant-Governor of the Commonwealth when he said that His Honor the Mayor of Boston and himself, associated with the Governor of the State in the management of affairs of the Commonwealth, would do everything in their power to induce him to attach his signature to what I believe will be the action of the House in concurrence with the Senate in appropriating \$100,000 for ten years for the Massachusetts Institute of Technology, and I think I am violating no confidence tonight in giving expression to my appreciation of what this

splendid institution has done in the past and what such an appropriation means in the future, when I say that I think His Excellency, the Governor, will agree with the Lieutenant-Governor and myself, that it is the proper thing for him to do and the thing that the people of the Commonwealth expect him to do." The mayor spoke of the close association between the history of the Institute and the development of New England and of the high standing of Technology in pure science as shown by Professor Cattell's report. "A moment ago," said Mr. Fitzgerald, "the Lieutenant-Governor was pleased to recite the names of men who have distinguished themselves in the engineering line. A moment ago congratulations to the President were read by the superintendent of streets (Louis K. Rourke, '95) of Boston,—I found him down in Panama less than a year ago. The President of the United States told me when I took him from Panama that I carried off his best man in civil life and that it was due to his training, skill and ability that such progress had been attained by the United States in the work on the Culebra Cut. Boston was honored for more than thirty-five years by the occupancy of William Jackson, '68, in the chief place in its engineering department. Although Mr. Jackson was not graduated at the Institute, he was one of the earliest students; a man who conferred great honor on this institution and upon the City of Boston, not only by the work which he did, but by the interest he showed in the Institute."

In presenting Mr. Charles A. Coffin, of the General Electric Company, Dr. Maclaurin referred to the fact that the electrical industry is scarcely older than the Institute of Technology and, like the Institute, it owes its existence and development to the scientific spirit.

MR. CHARLES A. COFFIN

Mr. Coffin said that in all ages of the world we have had commercial sagacity and aggregation of capital. Croesus was a man of means but he did nothing for the uplift of mankind. "All through the years," said Mr. Coffin, "there has been a dead level of history so far as industrial

work and industrial progress are concerned, until there arose institutions dedicated to the extraordinary work which this Institute has so successfully dedicated itself. I think of this and like institutions as a great source of high speed, of intelligent endeavor, of high purpose, and of devoted consecration, and of you as an outflow carrying to all parts of the earth your genial and fertilizing influence." Mr. Coffin then spoke briefly of the vast field of human effort into which Technology men have drifted, of their success in attacking the problem of sanitation, of electrical, mechanical, civil and mining engineering, chemistry and transportation. "In transportation what do we see? The immigrant of the old world carried a thousand miles to a place in the West generally in comfort and luxury, and I have seen it estimated that this is accomplished for ninety-five per cent less than it would cost him to walk that distance and furnish his own supplies." While speaking of the matter of transportation, Mr. Coffin said,—“I cannot refrain from doing honor to the man who I had hoped to see here tonight, and who has done perhaps more than all other men together to contribute to public security and comfort while traveling,—I refer to Mr. George Westinghouse.” Mr. Coffin said that he had been fortunate in being supported by men of scientific training,—men from the Institute to whom he felt he owed a great deal. He referred to the success of a number of Technology men in their various fields of work, particularly in the field of electrical engineering. In closing, Mr. Coffin characterized the work of the Institute men as follows:—“Your work, your thought, your ideals and your achievements; that which you are and that which you do, is the aristocracy of achievement in the great republic of equal opportunity.”

PRESIDENT LOWELL

Prof. A. Lawrence Lowell, president of Harvard University, next spoke, and said in part:

As one approaches a medieval city in Europe the first thing that catches

one's sight and the most interesting thing in the city is a great cathedral. I believe that it is not altogether fanciful to draw a parallel between a Gothic cathedral and an educational institution of modern times. A Gothic cathedral was built by two forces—a civic pride and an ideal of universal value.

Moreover a Gothic cathedral strikes one with awe at the faith and the devotion and efficiency of the people who built it. The Massachusetts Institute of Technology is the result of the faith of Professor Rogers, who believed that the working out of the great industrial problem of modern times could be made a learned profession and that men could be trained for that profession in a school.

At the time he had this faith there was no model in the country to which he could point for the success of that idea and he had no resources with which to start to fill it. Moreover the country was just engaging in the most terrible war that it had ever known, but his faith was absolute and he accomplished his results.

Now the devotion—and no man can have mixed for years with the professors of any institution of learning without feeling that the professors are the most devoted men that exist anywhere—their devotion to their work is far above their pay and it is given with a feeling of the results that they can accomplish for the unseen future, and among the professors of all institutions there are none who are more loyal to their institution and more devoted to their work than the professors of the Institute of Technology.

I happen to find among my grandfather's letters one of which I will read you a few words. This is dated in October, 1865. It says: “I propose to introduce a course of evening instruction to be given gratuitously to the public under such regulations as may be deemed advisable. It has occurred to me that this course might with advantage be delivered in the first instance in strengthening the Massachusetts Institute of Technology and by its professors. If such an arrangement will be acceptable to the government, I shall be happy to confer with you

on the subject. Yours respectfully, John Henry Lowell, trustee of the Lowell Institute."

These courses were immediately instituted and among the professors who taught in the first year was one who was afterwards president—Runkle—of the Institute, and another was President Eliot of Harvard University. (Applause.) Those courses have continued from that day to this, 46 years, except that eight years ago their nature was somewhat changed and they were turned into the school for industrial education.

No one can have watched the teaching of those men without feeling their devotion to their work. They have put into it the same energy that they put into the regular instruction of the students, and I will not say they have done it without sufficient pay, because there might be a claim for increase in that direction (laughter), but they have certainly done it with a devotion which it is a joy to watch.

President Lowell then spoke of the efficiency of the Institute and said that it has always known exactly the result it wished to accomplish, exactly the kind of young man that it wished to turn out and exactly the education that they wished to give. Secondly, it had always maintained a fixed high standard. It had never in any way catered to numbers by making its course more easy or by making it more cheap. In fact, it could be said that the Institute might write over its door: "Leave all leisure behind, ye who enter here."

Mr. Lowell said in concluding: "An institution of learning not only is never finished, but it never grows old. To the eyes of its lovers it never ceases to be fair, and the lovers of the Institute of Technology look forward in the next 50 years to a future which is as incalculable as the present condition would be to Professor Rogers if he could return and see this gathering here tonight."

DR. CHARLES W. ELIOT

I was in at the beginning of the Institute. I attended a meeting by the invitation of Governor Andrew at his own

house very early in the year 1861. It was a meeting which Governor Andrew had himself brought together of moneyed men and teachers, and particularly some of the leaders in the educational institutions already firmly established in Massachusetts, and the desire of the Governor which he stated before the meeting very frankly at its opening, was that the newly chartered Institute of Technology should be united with the Lawrence Scientific School and Bussey Institution and that this combination should rally to its support all the educational forces and moneyed forces of Boston and its vicinity.

Mr. Rogers was present at this meeting. So was the then president of Harvard University; so was the president of the Lowell Institute, and nothing could exceed the skill and the good temper with which President Rogers met this proposition of Governor Andrew.

It did not commend itself to his judgment, but he met it with the utmost tact and skill, and good feeling, and at that meeting Governor Andrew gave up the idea of combining these forces. That was the very first year of the Institute, the year of its charter.

President Lowell has said that the success of President Rogers indicated the strength of that tremendous motive which we call faith. The resources of the Institute at the start came wholly from private persons. Mr. Rogers himself, the solicitor, the expounder of the purposes of the Institute, was a private citizen without official position. He was not even a native of Massachusetts; he had not been brought up here. As an example of his faith President Lowell spoke of this whole period, the birthtime of the Institute, as a period of tremendous commotion and of enormous risks for all the business people of the country. It was indeed a period of terrible anxieties.

The first actual money responsibilities towards other people that President Rogers took was when he engaged his first Faculty, when he undertook to pay about ten men annual salaries, and he undertook that when there were no adequate resources in sight. Now when did

I receive the invitation to become on the first of the next September a professor in the Institute of Technology with a salary of \$2000 a year? It was two weeks after the assassination of Lincoln and Mr. Rogers had written that letter which put him under obligation, within a few days of the assassination of Lincoln. Faith, indeed, confidence in the public spirit of Boston and Massachusetts, confidence that he had already engaged the attention of the people of the state and particularly of numerous men capable of supporting his undertaking. I see in this publication (alluding to a copy of *Advance New England*) a portrait of President Rogers. It makes him look grim,—his face was thin, skin and bone, and the lines in it were deep as shown in this picture, but his face was capable of bright illumination and a cordial smile and very winning expression. His success was largely due to his social faculties. One of the places where he won the necessary pecuniary support for the starting of the Institute was the Thursday Evening Club of which he became president. I was a member of that club at that time. Nothing could exceed the skill, clearness, precision and grace with which he would expound a scientific topic to that club and illustrate it delightfully and interestingly. His personal force and his personal attraction came out whenever he addressed us on a scientific theme or on a theme concerning public welfare, and it came out in a way that always won him support and admiration.

The beginning of instruction at the Institute was very humble. When the first Faculty came together in September, 1865, it was in a hired room in a low building, of very shabby construction opposite Hovey's store on Summer Street. I recall very clearly that the first class assembled in those rooms numbered, if I remember rightly, twenty-three boys. They were what we would call a picked up lot, distinctly so. (Laughter.) But they had come there with a clear purpose. Some of them indeed had been persuaded by enterprising parents to join this novel school. There was no equipment; it was not possible to teach by any experimental

method. It was as much as I could do to illustrate my lectures on chemistry.

No such thing as the student taking the experimental method was possible. We stayed there through all the first year; it was not until the next year that the Rogers Building was ready for us. President Rogers himself contrived the apparatus in the physical laboratory to enable the class to be taught in the experimental method then unknown as a means of teaching. Professor Storer and I had to do the same thing with regard to chemical teaching. Not only had we to find the laboratory and provide the materials, but we had to write a book before we could successfully bring into play in those laboratories the experimental method for every student.

Now, what does this extraordinary success starting from such small beginnings teach us for the future? What does it teach concerning the democratic possibilities in education? Private persons inaugurated and set going the whole of this movement toward technical instruction above the secondary school. It was not public force which did it; it was private forces, the diversion of private property to public uses and the movement was led by an educational pioneer, not a public servant. It illustrates the tremendous force in this republic of the method of endowment. That is what Harvard University illustrates also and has illustrated for some years. Now, you have been in possession for many years of a large grant from the state and you are confidently expecting a grant four times as large now. That again indicates the possibilities in education in the future of the Commonwealth and of the country in the combination of endowment with public resources. Harvard University had just the same thing exactly—from 1638 down to 1810, Massachusetts, the province, colony and state, steadily aiding the college, and in 1810 they made a similar grant to what you now ask from the Commonwealth. In 1810 the Legislature voted \$10,000 a year from the tax on banks, to Harvard College for ten years. That for the day was more than the appropriation you

are now seeking from the much larger Commonwealth of Massachusetts. That gift ran from 1810 to 1820. Did it impair the independence of Harvard? Not at all. Did it commit the state to perpetual aid? Not at all. The Commonwealth has never given another grant to Harvard University; that was its last. You may have the same experience, gentlemen. (Laughter.) The Commonwealth may have the same experience again, but be not afraid of this combination of this method of endowment with the method of state aid.

Several speakers tonight have told you that the great asset of the Institute of Technology was its alumni body and they do not mean that it is the greatest of the pecuniary assets, although that may turn out to be true, too, in a little more time. That is true of the graduates of Harvard University, they are the greatest pecuniary asset of the University, but the graduates are always the chief asset of an institution of education in this respect;—they create its prestige; they give to the community confidence in the results of the education given in the institution. They strengthen it from every possible point of view and you are literally today the chief asset and support of the Institute of Technology. I have heard tonight many allusions to the field in which the graduates of this institution have distinguished themselves and will distinguish themselves. That field has been generally referred to or described as engineering or electricity or chemistry—some material field. I want to say one word on that subject because I think that conception of the service of graduates of technical schools is an incomplete one. I will illustrate what I hold to be the right doctrine by referring to some inscriptions on the front of the Union Station at Washington which I was invited to contribute to the adornment of that structure. An architect generally looks upon an inscription as nothing but a bit of decoration for a surface which would otherwise be plain. (Laughter.) Now, beside the architect there came to my house at North East Harbor three

summers ago an artist with the then president of the Pennsylvania road, Mr. Cassatt, and they wanted me to write some appropriate inscriptions for some statues they meant to put on the front of that immense Union Station,—six statues in groups of two, and ninety feet above the pavement. When I asked the artist, Mr. Louis St. Gaudens, what those statues were to represent, I found that he was wholly at a loss to make a suggestion. When some of us suggested great explorers and travelers on the North American continent he rejected them all and finally said that he could not make any use of a personage who would inevitably be attired in a coat with large skirts, breeches and stockings—knee breeches and stockings. Now this was rather disappointing to me because I wanted to have some personages of the sixteenth and seventeenth centuries up there to write inscriptions about. (Laughter.) But he ended the matter by saying that no statue could be put up there with that costume. It would look just like an advertisement of Quaker Oats (laughter); therefore we had to have classical statues with flowing robes that went to the ground, no knee breeches and no stockings. (Laughter.) Now, what were the subjects of these statues? Well, the first was Fire, the greatest of all human inventions, the source today of all the mechanical powers. The next was Electricity, the great transmitter of mechanical power, and the two statues were Prometheus for Fire and Thales, the old Greek sage who first observed that if he rubbed a bit of amber with a bit of silk he could make pith balls fly away when suspended on a little thread. There was an original observation on electricity. It is a long way from that to wireless telegraphy but it is one road all the way. At the other end of the station front there was a statue of Ceres—Agriculture—which Mr. Coffin tells us, was the fundamental art. And next Archimedes, the Mechanic Arts, but what statues were to go between—between Fire and Electricity on one side and Agriculture and the Mechanic Arts on the other? These, you notice, are all mechanical, material forces, these four.

What were the other two? One was a statue of Imagination—not material—spiritual, inventive, discerning, seeing, imagining—the power of vision, the scientific imagination, root and instrument of all scientific discoveries, pure and applied. And the other? The representation of Freedom, liberty of thought, freedom for all mankind represented universally by the form of a woman.

Now, in all the work of the graduates of technical schools in our country these two great motives and powers should underlie and they are not material. They are spiritual. The human imagination is as much to be used in science as in poetry or the drama—a form of imagination as searching, as powerful as any other form of human imagination.

And above all the love of freedom, the purpose to promote in the world the freedom of the individual, the freedom in public action, in religious action, in every human interest, and the love of freedom, the greatest promoter of human welfare, and, therefore, gentlemen, the occupations to which you are devoted, to which your successors are to be devoted, are not to be thought of as materialistic only. They have their feet on the ground, but their heads are in the sky.

MR. GEORGE S. SMITH

Mr. George S. Smith, president of the Boston Chamber of Commerce, expressed the high respect and appreciation of the Chamber of Commerce for the great work done by the Institute of Technology and spoke of the intimate relation between Technology and the business world. "The business men of today," said the speaker, "are earnestly seeking those trained men upon whom they can place the responsibilities for efficient management of large affairs." In conclusion Mr. Smith said,—"I look to the splendidly trained men of the Institute of Technology to develop those powers and talents and many sides in the great world of commerce."

PROFESSOR W. T. SEDGWICK

I am reminded of a remark which President Eliot made some years ago

in a Lowell lecture when in discussing the characteristics of technical and scientific schools, he pointed out one remarkable peculiarity in them, and that was the fact that even when connected with colleges and universities their students had not usually been expected to attend prayers. "Whether," he said, "this is because they are not supposed to need them, or because they are beyond hope, I have never been able to decide."

I think, however, that there was another reason, and the true reason, and that was because they were too insignificant. Beginning as simple protests against the monastic education of the time, they were, whether scientific or technical schools, at first considered of small account. They were badly housed; they were not at first hospitably received. But I mention these facts only in order to point out the contrast of today. From insignificance they have risen to vast importance; and the education which they exemplify has become the watchword of the time. Professional schools, whether of law or medicine, of technology or of any other sort, are characterized by the utmost devotion to their work of the students within their walls, and they stand today as the most satisfactory examples of modern education; the most easily dealt with, the least problematical that we possess. The Harvard Law School, without a peer among the law schools of the world, is noted for the intense application of its students. So also the Harvard Medical School and the Johns Hopkins Medical School, and it is the same with the Institute of Technology. (Applause.)

So wonderful has the success of such education become that the term "vocational" introduced as a kind of round-about synonym for "professional" and "trade" schools, is the educational shibboleth of our time, and vocational education has become in the lower grades almost equivalent in popularity and in success to professional education in the higher grades. But what a change from 1861 to 1911! In that change several great factors have been at work.

First of all, the community, as has been so well said, has supported the effort, and to this community in which we so fortunately dwell let me return on this great occasion our heartfelt thanks. Secondly, our student body largely picked because of their originality, because of their restlessness under older methods of education, their readiness for hard work, their ability to concentrate. And then the teachers, the faculty, which has had so much to do with this work. I need not tell you how efficient the Institute was in the beginning with men like Rogers and Eliot and Storer and Ware and Watson and Osborn and all the others who formed that little original faculty. They set the example which we have ever since undertaken to follow, and which their successors between them and us of today have followed so successfully. We are all their debtors, as for instance in chemistry,—for were we not all students of “Eliot and Storer”? Most of those men are here no longer. Rogers and Runkle and Walker and Nichols and Norton and Holman and many more have gone to their reward; they rest from their labors but their works do follow them and they are enshrined in our affectionate remembrance and in that of every living Tech man.

Matthew Arnold, in one of his famous “Stanzas from the Grande Chartreuse,” explains his want of sympathy with the monks by saying that

“rigorous teachers seized my youth
And purged its faith and trimmed its fire,
Showed me the high white star of truth,
There bade me gaze and there aspire.”

I suspect that the Institute has had many such “rigorous teachers.” But on the other hand we proved long since that such is the spirit of our students that these shun the easier and prefer the harder courses, so that if any one is to blame for our “rigor” it is chiefly our students.

It is a great privilege to sit with the Institute Faculty. We hear of cliques in some institutions, and of factions in others. But I have been for almost twenty-eight years a member of the

Institute Faculty and I can honestly say that I have never known a serious factional difference there. With the utmost independence of opinion, the utmost frankness of expression, and with absolute freedom of debate, the Institute Faculty is a very remarkable body. It comes as near a pure and enlightened democracy as anything I know. It is moved but not governed by tradition, and as in Japan there are “elder statesmen” who are listened to with respect, so in the Institute Faculty there are those who by their age or their experience are naturally somewhat more influential than the younger members; but still it is a wonderfully harmonious body, working to a common end, and coming as near the idea of “making reason and the will of God prevail” as any body with which I at least have ever been connected.

Finally, we have been fortunate also in the subject matter of our teaching—Nature and the laws of Nature—and in the object of our teaching, the amelioration of the lot of man upon this earth and here and now. Among the ancient Greeks the Eleusinian mysteries, celebrated on the shores of the beautiful Aegean, clustered about the physical universe and the worship of Nature. And of these mysteries Cicero tells us that those once initiated were enabled “not only to live happily but to die in a fairer hope.” So may it be with us and with the Institute that we love; in our contact with Nature and our modern adoration of Nature, which we celebrate here on the shores of this colder northern sea by devotion to the truth and the philosophy of Nature, those of us who have been initiated, those who have learned Nature’s secrets, may likewise be enabled not only to live happily but to die with a fairer hope.

Maps for Naval Architects

The department of Naval Architecture has received, at the suggestion of Congressman Peters, a complete set of U. S. Geodetic Survey maps showing the Atlantic coast. The series includes more than one hundred charts.

Dinner of Providence Association

The annual dinner of the Technology Club of Rhode Island was held at the Crown Hotel, Providence, R. I., Saturday evening, March 25th. About thirty-five members of the club were present. President Arthur A. Noyes, '86, of the Alumni Association, was the first speaker introduced by President Woolworth.

Dr. Noyes told about the plans that were being made for the New Technology and referred to the matter of aid from the state of Massachusetts as a question of the most vital interest to the Institute at the present time. He told about the organization of the committee on state aid and the great amount of work that had been accomplished to convince the Commonwealth of the profitable return the Institute makes to the State. The speaker alluded at some length to the Congress of Technology to be held in Boston, which he said was to make people realize the important position the Institute occupies with relation to the business interests of the world.

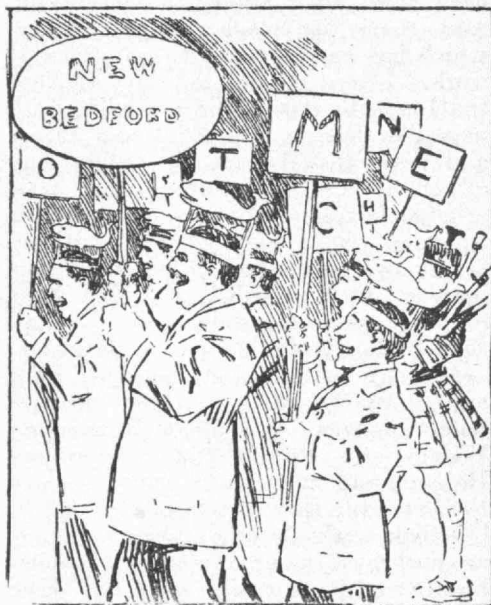
Lieutenant-Governor Bliss, '89, spoke in a pleasant vein of his life at Technology and of the changes for the better that have occurred since those days. He contrasted the social life of today with that of former years and stated that the various Technology clubs throughout the country were doing much to increase the loyalty to Alma Mater.

I. W. Litchfield, '85, of the REVIEW spoke of the increasing strength of the alumni organization and of the plans for work among the various Technology clubs throughout the country. He also outlined the social events connected with the Congress of Technology to be held in Boston.

The last speaker was John R. Freeman, '76, who gave an interesting address on the construction of the Panama Canal. Mr. Freeman made two trips to the Isthmus with President Taft as one of his advisers—bringing him into intimate personal relations with the President to whom he paid a high tribute. Mr. Freeman's talk covered not only the engineering features of the canal, but he

described the entire organization of government in the canal zone.

The following officers were elected:—James G. Woolworth, '78, president; Charles F. Tillinghast, '78, vice-president; William C. Dart, '91, secretary-treasurer; Eleazer B. Homer, '85, member of Alumni Council. These with Louis D. Nisbit, '09, constitute the executive committee.



New Bedford Club at the Smoker—*Boston Herald*

Minneapolis Alumni Dine

At the annual dinner and business meeting of the Minnesota alumni of the Institute, held at the Minneapolis Club, Minneapolis, Minn., on April 11th, about thirty men were present. T. A. Foque, '88, general mechanical superintendent of the "Soo Line" and president of the club, acted as toastmaster. Late news of the Institute, provided by the Committee on Local Associations, was read and addresses were made by some of the younger graduates who told about student life at the Institute at the present time.

The new officers elected were Henry Yoerg, '95, president; J. W. Shuman, '97, vice-president; Clifford C. Hield, '10, secretary, and M. C. Magnuson, '04, treasurer.

Electrical Research Work

Announcement has been recently made that the Boston Edison Company would give the Institute \$3,000 for a period of years for the purpose of electrical research involving a thorough investigation of the use of electricity in vehicles employed in trucking or delivery. This investigation will also include certain economic features such as tires, street pavements, etc. The intention is to determine practically what the ordinary city with its limitations can do for tires, and what tires can do for it. All the elements of friction in the machine will be fully investigated and tests made of all the parts going into such electric vehicles. One important feature will be an investigation of the efficiency of a storage battery and the conditions under which it will best perform its work.

Papers by Dr. Comstock

At a meeting of the American Physical Society held in Washington, April 21, Dr. D. F. Comstock '04 read a paper on "The Physical Implications of the Principle of Relativity." He also read a paper before the American Philosophical Society in Philadelphia, April 22, on "The fundamental Principles of Modern Views of Matter and Electricity," and before a conference of teachers of the higher schools of Pennsylvania, April 22, on "The Modern Theory of Matter."

Freshmen-Sophomores Win over Harvard

The freshmen-sophomore track team scored a decisive victory over the Harvard under-classmen, May 8, at Technology Field. Technology had seventy-one points to its credit and Harvard forty-six. In the track events Technology far outclassed Harvard, the latter being stronger in the field. There was no particularly fast time made except in the 100-yard dash won by Wilson, '14, who equalled the Technology record in 1903 made by Franklin, '03.

Undergraduates Celebrate the Anniversary

On the Wednesday following the last day of the Congress of Technology, the undergraduates gave a dinner at the Tech Union at which over two hundred of the students were present. The principal speaker and guest was Frank J. Sprague of New York City, a pioneer in electric traction work. The other speakers were members of the faculty and students representing the various course societies. The Technology orchestra of eighteen pieces furnished the music. Mr. Sprague is a graduate of Annapolis and when he arose he was greeted with the spirited Navy yell given by the graduates of the Naval Academy who are now studying naval construction at the Institute.

Cathedral of St. John the Divine

The dedication of the great cathedral of St. John the Divine, New York City, took place last month after a period of planning and construction covering thirty-nine years. The architects selected for this great undertaking were Heins & LaFarge. While George L. Heins, '82, was an architectural student at the Institute, he met C. Grant LaFarge, '83, who was also pursuing a special course at the Institute, and who later became his partner. Mr. Heins is now dead and Mr. LaFarge was the representative of the original firm at the dedication.

Dr. Noyes on the Council

During the Easter recess, Dr. Arthur A. Noyes, '86, attended the meetings of the National Academy of Sciences at Washington, of which he is a member, and presented a paper on "The Properties of Salt Solution in Relation to the Ionic Theory." Dr. Noyes was elected a member of the Council of the Academy for three years. He also attended a meeting of the American Philosophical Society in Philadelphia and spoke at a meeting of the Washington Society of the M. I. T. April 17.

The Celebration in Pittsburg

The annual dinner of the Pittsburg Association was held at the University Club on April 11th. The dining-room was handsomely decorated with Tech banners. Back of the speakers were pictures of Presidents Rogers and Mac-laurin draped with the cardinal and gray colors and each of the columns in the dining-room carried a banner bearing the name of a president of the Institute with his years of service.

Among the speakers were Charles F. F. Campbell, '01, who spoke of the Institute; Alvan L. Davis, '98, whose subject was "Capital and Labor"; and W. E. Mott, '89, who gave reminiscences of the recent trip of civil engineers to Panama.

During the evening telegraph messages were exchanged with Boston, and Campbell was kept busy receiving wireless messages, which, from their lack of relevance, seemed to emanate from a point within the room. The messages from Boston bespoke the substantial interest of alumni which will be unanimous when the opportunity is offered.

The merry celebration was interrupted by a message of greeting and congratulation from the Alumni Association of Stephens Institute which was banqueting in another part of the club. Thereat, every man with stein and loose flowers swarmed upstairs and taking the Stephens men by surprise pelted them with carnations and gave them a rousing cheer. The Tech men had hardly returned to their own room when the Stephens alumni paid a return visit, lustily cheering Tech.

Henry D. Shute, '92, acted as toast-master. During the evening a silent toast was drunk to Ellen H. Richards, '73, and C. Snelling Robinson, '84, paid a tribute to her successful achievements in her chosen profession.

The new officers of the club are: Warren I. Bickford, '01, president; Fred Crabtree, '89, vice-president; L. K. Yoder, '95, secretary and treasurer. Executive committee,—Morris Knowles, '91; Wm. E. Mott, '89; Edward Seaver, Jr., '01; representative to Alumni Council, H. A. Rapelye, '08.

Courtesy of the Chamber of Commerce

Through the courtesy of the Boston Chamber of Commerce, the April number of *Advance New England*, a monthly publication of the Chamber, was devoted entirely to the interests of the Institute. Contributions were all made by members of the Chamber of Commerce who were also Tech men. The subjects treated include "The Fiftieth Anniversary of Massachusetts Institute of Technology," by Walter B. Snow, '82; "The New Technology," by Frederic H. Fay, '93; "Technology and the Public Health," by C.-E. A. Winslow, '98; "Applied Chemistry," by Alan A. Claflin, '94; "The Institute and Industrial Education," James P. Monroe, '82; "Scientific Method and Business," Russell Robb, '88; "Facts, Figures and Features," Roger W. Babson, '98.

Technology Swamps Brown

In the dual track meet between the Institute and Brown University, held at Providence, April 29, Tech was victorious over its opponents by a score of 94 to 32. Three new Tech records were made. In the hammer throw, Metcalf, '12, made a new record of 130 ft. Chamberlain, '11, made a record discus throw of 117 ft. 1 3-4 in. Another new record was the pole vault of Salisbury, '11, 11 ft. 5 5-8 in.

The meet was an enthusiastic one and a large number of Tech undergraduates attended. The Tech alumni in Providence were also out in force.

Monthly Meetings of '08

The New York members of the class of '08 will hold informal monthly dinners at the Technology Club of New York, 17 Gramercy Park, on the last Saturday of every month. Members of the class having business in New York should make it a point to be there to take in these reunions.

H. S. Osborne, '08, with the American Telephone and Telegraph Co., 15 Dey St., New York City, is in charge of these dinners.

The Tech Show

"Frenzied French," the thirteenth annual Tech show, which was given in the Shubert Theatre, Boston, Thursday and Friday afternoons, April 20 and 21, was unquestionably the best effort in this direction that has ever been presented by the undergraduates of the Institute. It was thoroughly up to date, and was a purely American comic opera dealing with the adventures of a number of college boys and girls at a house party



F. H. Smythe, '12, as "Dolly," in "Frenzied French"

on Long Island. The book was clever, the music was good and the lyrics were fresh and full of happy hits that were fully appreciated by audiences that completely filled the theatre at each performance. As compared with any former play given by the students, the production may be characterized as finished.

While the book, music and lyrics were all original with Tech undergraduates, much credit must be given to the coach,

Mr. Eugene B. Sanger of New York, who handled the show this year for the first time. The hit of the play was F. Hastings Smythe, '12, who took the part of the charming heroine, Dolly Carter. No one since Belden of past fame has made such a stunning girl as Smythe who is also possessed of an excellent tenor voice. Louis de Florez, '11, gave some very remarkable impersonations in addition to taking a most difficult part. In rapid succession he appeared as a German inventor, a French roué, an Italian organ-grinder, and a Chinese opium fiend. His work throughout the piece was hardly less than professional.

It is not the province of the REVIEW to speak in detail of the parts that were skillfully taken by Tech students. It is enough to say that the show stands in the front rank of amateur performances ever given in Boston. The choruses were especially good; the men made up into charming chorus girls and danced like the real thing. The book was the work of Edwin C. Vose, '11, and Wellesley J. Seligman, '12. The music was principally by Orville B. Denison, '11, S. B. Putnam, '11, and C. C. Peirce, '11. The lyrics were principally written by Edwin C. Vose, '11, David F. Benbow, '12, and H. W. Barker, '14.

Status of the Institute Bill

The resolve apportioning \$100,000 from the State of Massachusetts annually for ten years to the Institute of Technology, after passing the Senate was reported favorably by the Ways and Means Committee of the House on March 31 with the following amendment:

"Provided, however, that the payment for 1917 and for the four following years shall be conditioned upon the presentation of satisfactory evidence to the Governor and council that the said Massachusetts Institute of Technology has received by bequest or gift from other sources, the sum of one million dollars in addition to all the funds held by it on the day of the approval of this resolve."

It passed the House unanimously on May 3 and went to the Governor, May 16.

Laurels for Tech Men

It must be a very calm and well-poised set of men, the alumni and former students of the Institute of Technology, who can today go about their usual duties without a feeling of egotism and self-consciousness which might prove irritating to their non-Tech associates. We question whether any body of men ever received so many compliments in the history of humanity as they received last night from the speakers at the Tech jubilee banquet. The great leaders among them were given credit for tremendous achievements for city, state and nation, while the rank and file, every mother's son of them, were told that no important engineering work in this country could have been brought about without them. When the president of the General Electric Company made the assertion that he was a poor assembler of good material, and that the good material was largely composed of Tech men, the climax of laudation was reached.

The keynote struck throughout all these addresses last night was efficiency. Tech men have certainly "made good." They have deserved all that has been said of them by the speakers and by the general verdict of the country; and the jubilee just concluded was a climactic proof of the vitality of this organization as conceived by Rogers, carried on so well by his successors, and now in the hands of Maclaurin, to whose initiative and general supervision a large share of the credit for the magnificent success of this congress and anniversary is due.—*Boston Transcript*, April 12.

St. Louis Society Formed

The St. Louis Society of the M. I. T. came into existence as an organization on the fiftieth anniversary of the granting of the charter to the Institute, with sixteen loyal sons of Tech present. There are a large number of Tech men located in and about St. Louis and with the general quickening of interest in Technology affairs among the alumni all over the country, the absence of any outlet for

Tech exuberance in St. Louis was keenly felt.

The opportunity for completing an organization at the time of the Congress of Technology was seized upon. A jubilee banquet was held at the University Club, and amid toasts to Tech and felicitations and good news from Boston, the St. Louis Society was born.

The election of officers for the ensuing year resulted as follows: J. L. Mauran, '89; A. M. Holcombe, '04; W. W. Karnan, '08, executive committee; A. M. Holcombe, '04, secretary-treasurer; W. W. Karnan, '08, assistant secretary-treasurer.

Luncheons are held weekly on Fridays at 1 p. m. at the St. Louis lunch room, 4th and Locust Streets, which are well attended.

Hartford Club Jubilates

The annual meeting and banquet of the Technology Club of Hartford was held on April 11th in the rathskeller of Harry Bond's restaurant. Telegrams were exchanged between the club and the committee in Boston and a letter of felicitation and congratulation from President Maclaurin was read.

The following officers were elected for the ensuing year: Ernest W. Pelton, '03, president; R. J. Ross, '08, vice-president; and George W. Baker, '92, secretary and treasurer. The above officers with B. S. Clark, '00, and Carl E. Peiler, '04, form the executive committee.

There were about twenty-five present at the meeting.

Simultaneous Meetings of Alumni Associations

This issue of the REVIEW contains brief reports of meetings held by a number of Technology clubs throughout the country in connection with the Fiftieth Anniversary Banquet held in Symphony Hall, April 11. The following meetings were held in addition to those of which we print reports: Buffalo, Chicago, Cleveland, Denver, Harrisburg, New Bedford, Portland, Ore., Providence, San Francisco, Seattle, Spokane.

Tech Defeated by the Navy

A little over a month ago Captain Herreshoff, manager of the Tech crew, received a request from the Naval Academy asking for a race April 29. The financial prospect of the crew for the coming season has not been very promising. It was without a shell and nothing had been done in the way of practice. The members of the crew were unwilling to pass by this recognition from the Naval Academy and after consulting with some of the alumni, the challenge was accepted. A sufficient sum was raised to rent an eight-oared shell, and secure the services of Coach O'Leary who handled the crew last year.

The race was rowed at Annapolis in slow time on account of troublesome wind and choppy water. The Middies won the two-mile race by about two lengths. The winner's time was 11 minutes and 17 4-5 seconds; the loser's was 8 seconds slower.

The Tech crew's lack of training was very apparent toward the latter part of the contest. For the first three quarters of the race, the boats held together splendidly, but when the Navy hit up the stroke, Tech was unable to respond in kind. The Midshipmen were in excellent condition and training, and averaged eight pounds heavier than the Technology crew. The visitors were most hospitably treated during their stay in Annapolis and were highly complimented on their good showing.

Syracuse Men Enthusiastic

The Technology Club of Central New York held a meeting and dinner at The Onondaga, Syracuse, April 11th. Messages of congratulation were exchanged between Boston and the members of the club and announcements of gifts from alumni to the Institute were telegraphed from Boston.

Enthusiasm at the meeting of the club ran high and at an informal meeting after the dinner a subscription committee was appointed to assist the general committee in raising funds for the new Tech-

nology buildings which are soon to be erected.

Among those foremost in the enterprise were W. E. Hopton, '86, and H. W. Jordan, '91. A letter from Ward N. Gere, formerly of Syracuse, who was captain of the Tech crew, was read asking the club to assist in financing the crew in order to enable them to race with Annapolis.

Ellen H. Richards

A brief statement of Mrs. Richards' death, which occurred just before the April REVIEW went to press, sent a shock to the heart of every Institute student who had known her at Technology and the mourning of the community where her activities centered was heartfelt and widespread. For forty-one years she had devoted herself to fighting disease and solving economic problems of the household with the lamp of science as her guide. At a time when a woman had no place in American science, her determination, energy and ability, earned for her a position of eminence. The July magazine number of the REVIEW will contain a sketch of Mrs. Richards' life and an appreciation of her work.

In a Place of Honor

The place of honor at the banquet was given to the classes of '68-'69 which were located at a handsomely appointed table in front of the stage.

Members of the classes of '68-'69 present were: James P. Tolman, Col. Andrew H. Russell, U. S. A., retired, Charles B. Fillebrown, Eben S. Stevens, Ernest Bowditch and Channing Whitaker.

Tech Engineers at the Head

At the annual meeting of the Boston Society of Civil Engineers, held March 15th, the following officers were elected: Charles T. Main, '76, president; Frederic H. Fay, '93, vice-president; S. Everett Tinkham, '73, secretary; Charles W. Sherman, '90, treasurer. Henry F. Bryant, '85, was president of the society last year.

Science Hates Secrets

In past years our manufacturers were often criticised for their failure to utilize as they might the services which scientists could render in the way of devising new methods of production and improving old ones. The business man of those times had more or less contempt for the man of science as unpractical and visionary, seeking knowledge for its own sake and indifferent as to whether it could be made a source of profit or not.

Evidently a good many of the manufacturers are wiser than that, now. The present complaint against them, as voiced by Professor Walker, who teaches industrial chemistry in the Massachusetts Institute of Technology, is that the discoveries made in the many laboratories maintained by the larger business corporations are treated as trade secrets and carefully concealed from other scientists, as well as from business rivals and competitors.

Of course, this habit, if it has come to be generally followed in the industrial world, is a serious obstacle to the general advancement of pure science, so called. It necessitates an enormous duplication of effort, in that several or many investigators have to grope through the dark toward an end which another has already reached. Were it revealed to them their energies could be otherwise used, greatly to the common advantage.

That is the true scientific view, without a doubt, and Professor Walker says that it should be the business view also. To prove this contention, he says, first, that many of the carefully guarded secrets are already possessed by more than one owner, having been independently acquired, and, second, that if, every possessor of one of these secrets were to contribute it to the common stock of knowledge his small apparent loss would be much more than made up by the privilege of using that coming in from all other sources.

That sounds like straight logic and good argument, too, but it may not convince the man whose one trade secret is a considerable part of his capital that he could get a greater, or even as great, benefit from the knowledge of secrets not in his "line."—*New York Times*, April 12.

Weekly Luncheon at Cincinnati

The Cincinnati M. I. T. Club has come into line with weekly luncheons which take place on Thursdays from 12.00 to 1.30 at the Bismarck Grill on Walnut Street.

There are now five clubs holding regular weekly luncheons as follows:

Boston: The classes from '01 to '10 meet at the American House Rathskeller, Hanover Street, Fridays, 12.30 to 1.30 p. m.

Chicago: Northwestern Association of M. I. T., at Vogelsang's Restaurant, 178 Madison Street, Thursdays, at 12.30 p. m.

St. Louis: Technology Club of St. Louis, at the St. Louis Lunch Room, 4th and Locust Streets, Fridays, at 1 p. m.

Washington: Washington Society of the M. I. T., at Wallis' Café, 617 Twelfth Street, Wednesdays, 12 to 1 p. m.

Note: Owing to the closing of Brucker's Hotel for repairs, the Providence Technology Club has discontinued its weekly luncheons. They will be resumed as soon as the repairs have been completed.

Memorials to Mrs. Richards

Through the efforts of former students of Ellen H. Richards, a committee has been formed to raise funds for research work in sanitary chemistry at the Institute. This fund will be known as the Ellen H. Richards Research Fund. Mr. George Wigglesworth is acting as treasurer for the committee.

A committee of women who have been associated with Mrs. Richards in home economic work is gathering material for a life of Mrs. Richards to be written with the approval of Professor Richards. Any material which may be of assistance to the editor, such as letters, photographs, etc., should be sent to Miss Caroline L. Hunt, 32 Eliot Street, Jamaica Plain, Mass.

Professor Lanza is President

At the annual spring dinner of the New England alumni of the University of Virginia, held at the Hotel Brunswick last month, twenty members were present and Prof. Gaetano Lanza, president of the Association, officiated.

Rochester Club in the Van

Members of the Technology Club of Rochester held their annual dinner April 11th at the Genesee Valley Club, twenty-five members being present. Dr. Rhees, president of the University of Rochester, and Roland B. Woodward, secretary of



William E. Hoyt, '68, president of Rochester Club

Chamber of Commerce, both took for their topics "The Advantages of Education." They were introduced by Pres. Wm. E. Hoyt, a member of the first class that was ever graduated from the Institute. Mr. Hoyt related a number of anecdotes bearing on his early experiences at Tech. The twenty-five guests were seated for dinner in the club café. The tables were arranged in a circle, the center space being filled with Boston ferns and flags and pennants in the colors of the Institute. This formed a particularly effective and pleasing decoration.

A number of very encouraging telegrams and letters from Boston were read.

Lusty Cheers from New York

Over one hundred and fifty men in New York and vicinity met for dinner at the Technology Club, 17 Gramercy Park, on the evening of April 11th where the committee had arranged an attractive program. The principal feature of the evening was the receipt of news from Boston over a special telephone wire connecting the banquet room in Boston with the one at the New York Club.

Lansingh, '98, made arrangements for the special wire and presided at the telephone in Boston, while the speeches were being made, the instrument being located just back of the stage at Symphony Hall. While the dinner was in progress, Lansingh called on the New York men for a cheer and with King at the receiver led the fellows in a long Tech yell.

Among those who talked over the wire from Boston were President Maclaurin, Lieutenant-Governor Frothingham, James P. Monroe, '82, Lawrence Allen, '07, chairman of the committee on local celebrations, and I. W. Litchfield, '85.

Alumni Meeting in Philadelphia

The alumni of Philadelphia held a smoker at the Southern Club in conjunction with the Congress of Technology in Boston, on the evening of April 11.

During the evening numerous telegrams of felicitation were exchanged, most of those from the Institute announcing gifts from alumni. N. Bruce Armstrong read a paper on "Artificial Coal and Its Uses." Technology songs, Technology cheers and good feeling prevailed during the evening.

Measuring the Sun's Radiation

Dr. C. G. Abbot, '94, director of the Astrophysical Observatory of the Smithsonian Institution, will this summer conduct an expedition to southern Mexico to make measurements of the sun's radiation, which will be compared with simultaneous observations on Mt. Wilson. Congress has made a special appropriation of \$5,000 for this work.

Southern California in Line

Thirty-one of the alumni of the Institute residing in the vicinity of Los Angeles, Cal., met on the evening of April 11th at the University Club to celebrate the anniversary of the founding of the Institute, simultaneously with twenty-five other associations in various parts of the country.

Telegrams were received from the committee in Boston and a message of congratulation was sent to President Maclaurin at Symphony Hall. President Johnson of the local alumni association and a number of Tech and other prominent men were present.

Among the speakers of the evening were W. K. Gaylord, '93; F. H. Merrill, '93; Lyman Farwell, '87; W. B. Russell, '97. Telegrams were received from the Congress of Technology which was being held in Boston, also a letter of congratulation from President Maclaurin.

The meeting was an enthusiastic one and indicated the great strength of the Technology Club of Southern California.

"Technique" 1912

"Technique" 1912 is one of the handsomest year books the students have yet produced. Its chief merit is the art with which it has been arranged and the good judgment used in selecting material. It is handsomely printed as usual, and contains some new features that appeal to the reader. The art work of the students is of superior order, some of the drawings having much merit. The frontispiece is an excellent picture of Professor Gaetano Lanza, "A great force in education, an untiring contributor to science, a sincere friend to every Institute man,—Professor Lanza has the admiration and deep respect of all." The book is dedicated to Professor Lanza.

As is customary, its first appearance was at the Technique Rush which was held April 18 and marked the beginning of the Junior Week festivities. About two hundred undergraduates took part in the rush which was short but fierce. Twenty-five copies of the book autographed by President Maclaurin were

passed out to the successful contestants, the books being serially numbered from one to twenty-five.

Celebration in Cincinnati

About thirty Tech men of Cincinnati and vicinity met on the evening of April 11th to celebrate the fiftieth anniversary of the granting of the charter to the Institute.

During the dinner a letter of congratulation from President Maclaurin was read by the retiring secretary and during the evening telegrams from the Boston celebration were read as they were received.

The officers elected were: Walter A. Lee, '00, president; Frederick W. Garber, '03, vice-president; Stuart R. Miller, '07, secretary. The above officers with George A. Cowing, '01, Theodore Green, '05, and H. D. Loring, '07, constitute the executive committee.

After the business of the evening was over, the members retired to disrupt a neighboring bowling alley.

Technology Association of Japan

A dinner was held April 13 at the Kojunsha Club, Kyobashi-Ku, Tokyo, by the alumni of the Massachusetts Institute of Technology, to receive as their guest Mr. Jasper Whiting, representing the Corporation of "Boston Tech" who is in Tokyo as special commissioner from the Institute to inquire into the condition of higher technical education in Japan and to investigate the special needs of students who may contemplate pursuing courses at the Institute.

This meeting was of special interest as it marked the formation of a Technology Alumni Association in Japan and it is the first alumni meeting of Tech men ever held in the Orient. Dr. Takuma Dan was unanimously chosen secretary and treasurer of the Association. Of the alumni now in Japan the following were present: A. Homma, '74, T. Dan, '78, S. Fukuzawa, '88, J. Whiting, '89, T. I. Chapman, '92, H. Maki, '93, F. W. McIntyre, '02.

Detroit Club Swells the Chorus

A large contingent of the Detroit Technology Association held a dinner at the University Club April 11th in conjunction with the Boston banquet. A letter of felicitation was read from Dr. Maclaurin, also telegrams from Boston telling of the gifts of alumni.

Among the speakers were H. M. Smith, '02; Herbert Alden, '93; L. J. Partridge, '88; Wm. R. Kales, '92, and others.

The members of the Detroit Association are now considering the challenge of the Technology Club of Northern Ohio to meet them in friendly conflict on some breeze-fanned sylvan shore during the summer and demonstrate the superiority of Detroit over the caitiffs of northern Ohio.

Work for the Naval Architects

Preparations are being made by the students in the Department of Naval Architecture for a series of tests on the torpedo destroyer *Sterret*, which will probably occur this month. These tests will include the strain on tiller ropes at different angles of rudder to hull, for which Mr. Everett has designed a new recorder which is expected to produce measurements more accurate than heretofore taken.

The department is preparing to place the *Froude* in the water early this month. It will be tested in the Charles River Basin this summer to determine the relationship between the *Froude* and its prototype the *Manning*.

Undergraduates Visit Cape Cod Canal

The first pleasure steamer to enter the Cape Cod Canal now under construction, was the steamboat *King Philip* carrying three hundred undergraduates, most of them members of the Civil Engineering Society. The trip was made on April 15th and the canal was penetrated for about two miles. The Tech orchestra kept things lively on the boat. The party was accompanied by a number of professors and instructors who explained the processes of work.

Tech Men are Qualified

In submitting to Mayor Fitzgerald a list of men who would be qualified for appointment on the Boston Board of Health, the Finance Commission selected six men. In their communication to the mayor they do not give names, but all of them are former students of the Institute of Technology; four have pursued a four-year course at the Institute, another was graduated from Amherst and then received a degree from the Institute while another was graduated from Harvard and subsequently studied at the Institute.

Health Officers' Association

A permanent organization known as the Health Officers' Association of New Jersey was formed last month among a number of prominent health officers of that state. The principal object of the association is the advancement of knowledge relating to public health and sanitation. The president of the association is Chester H. Wells, '02, health officer of Montclair, N. J., and the secretary-treasurer is J. Scott MacNutt, '08, health officer of Orange, N. J.

Dr. Charles G. Abbott Honored

At the annual dinner of the National Academy of Sciences held at Washington last month, the Draper medal was awarded to Charles G. Abbott, '94, director of the Smithsonian Astrophysical Observatory, for his remarkable research work in solar radiation. The award was made last year but a formal presentation was deferred until the annual meeting.

Technology Track Dates

There are two more dates on the Technology track schedule. The first occurs on May 19-20 on the occasion of the New England Inter-Collegiate Athletic Association meet at Springfield and the second is May 26-27 at the meet of the Inter-Collegiate Amateur Athletic Association of America at Cambridge.

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